

Remarks/Arguments

Applicant has received and carefully reviewed the Office Action of the Examiner mailed February 22, 2008. Currently, claims 1-32 remain pending of which claims 5, 6, and 10-22 were previously withdrawn. Note that claims 1-4 were previously canceled. Claims 7-9 and 23-32 have been rejected. Favorable consideration of the following remarks is respectfully requested.

Claim Rejections – 35 USC § 112

Claim 9 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has modified claim 9 to further prosecution of this case. As such, this rejection should be considered moot.

Claim Rejections – 35 USC § 101

Claims 7-9 and 23-32 were rejected under 35 U.S.C. 101 as directed to non-statutory subject matter. After careful review, Applicant respectfully traverses this rejection.

The Examiner asserts, “None of the claimed elements of the system comprise a physical device within the meaning ‘machine’ as defined by patent law. None of the recited elements of the system comprise **physical or hardware components**, and therefore the ‘system’ claims are **directed to software per se and are non-statutory**.” Claim 7 includes an element specifically identified as simulation device, specifically “a chemical element detection environment simulation device”, and further indicates that the device is “connected” to other elements. It is difficult to see how a device can be construed to be anything other than a device in the ordinary meaning of the word. For example, “device” is defined as “a thing made for a particular purpose, especially a mechanical or electronic contrivance.” (Emphasis added.) by the Compact Oxford English Dictionary. The physicality of the device of claim 7 is further supported in that it is “connected” to other elements of the claim in the ordinary sense of that word found in various dictionary definitions. See the following dictionary definitions of “connected”: plugged in (Example: *“First check to see whether the appliance is connected”*); wired together to an alarm system (Example: *“All the window alarms are connected”*); joined or linked together; or, aptly, joined by means of communication equipment (Example: *“The telephone company finally*

put in lines to connect the towns in this area"). Each of the definitions indicates the physical connection of physical devices. As the terms are used in claim 7, they are given their respective plain meanings; a physical "device" appears to be physically "connected" to other elements in the claim in the ordinary meaning of those terms. For example, Fig. 9 includes sets of eight cards (68), output files in card format, which are written and read between CADSE simulation (61) and MODTRAN (23) which in turn accepts input from and provides output to module (87) which, in turn writes output to data storage (86) of Fig. 11. This would appear to require a card punch and reader connected to the device in question.

If a "device" of the Examiner's statement above may be a machine as defined by patent law, a rational basis for asserting that the "device" of claim 7 is not a device in that sense ought to be presented in a subsequent non-final Office Action. Alternatively, the Examiner may wish to propose a term for a device, other than "device", which would be acceptable in this context. Only when the claimed invention taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is it descriptive material *per se* and hence nonstatutory. The device presented is transactional. It accepts user interface input, retrieves stored information, writes and reads cards, performs calculations on the input values, and outputs the useful results of the computed simulation. Further, as noted at MPEP 2106.01, I, "USPTO personnel should determine whether the computer program is being claimed as part of an otherwise statutory manufacture or machine. In such a case, the claim remains statutory irrespective of the fact that a computer program is included in the claim." It is believed that the rejection of independent claim 7 under 35 U.S.C. 101 as directed to non-statutory subject matter is unsupported and inappropriate, and Applicant respectfully requests that the rejection of claim 7, as well as claims 8, 9, and 23-32, which are dependent therefrom, be withdrawn.

Claim Rejections – 35 USC § 103

Claims 7-9 and 23-32 were rejected under 35 U.S.C. 103(a) as being unpatentable over D. M. Jodeit, Dl. Jones, R. McMahon, "Use of Environment Simulation to Support Passive Chemical Sensor Development", hereinafter Jodeit, in view of Applicant's Admission, hereinafter AOA. After careful review, Applicant must respectfully traverse this rejection.

As an initial matter, the Examiner is asked to provide a citation for the publication of

Jodeit and a publication date indicating when the reference became available to the public. Although the Jodeit reference provided by the Examiner bears a date of March 2000 in the lower corner of each page, possibly a creation date, it is not clear that it was published or otherwise made available to the public before Applicant's critical date. In the interest of advancing prosecution, Applicant will proceed based upon the assumption that the Examiner has simply failed to provide the relevant information and that the publication citation will be provided in a non-final Office Action.

“All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). (MPEP § 2143.03). As acknowledged by the Examiner, nowhere does Jodeit appear to disclose a computer system operable as a simulator system, the computer system comprising a numerical computing tool and an atmospheric transmittance and radiance model. Furthermore, nothing in Jodeit appears to suggest that such components would be usable or useful in the apparatus described. The terms “transmittance” and “radiance” do not appear in Jodeit and “atmospheric” appears only once in the context of atmospheric transport of radiation which does not appear to depend upon optical properties of the environment such as “transmittance” and “radiance”. Applicant's invention, in part, arises from their appreciation that existing models and computational tools, some examples of which may be found in AOA at page 8, lines 10-13 could be incorporated into an improved device for providing possible scenarios for testing an interferometer-based spectral sensor, detector, system, or the like. Instead, Jodeit appears to use a limited model in its evaluation of the FOR (Field Of Regard) of a sensor. As such, the model employed appears to have been sufficient to determine whether an unstabilized JSLSCAD mounted on a simulated vehicle was capable of detecting a simple Gaussian cloud model in simulated terrain. Jodeit does not appear to teach or disclose evaluating the sensitivity of the sensor to a variety of threats, but rather appears to be concerned with whether the ability to “see” a generalized cloud, apparently well delineated cloud (See Fig. 2 of Jodeit.), in simulated terrain is influenced by the addition of a mechanical stabilizer. The device of Jodeit appears to presume that the simulated cloud can be detected if it is within the Field of Regard and therefore cannot be said to utilize the elements of the simulation device at issue. Addition of additional simulation elements to the model employed by Jodeit would appear to add undesirable

complexity to a model which is already said to be incapable of running in real time on the computer available. (See page 3, second column, first full paragraph which indicates that the model apparently ran at 25% of the desired speed and did so by calculating four lines at each step for an overall relative rate of slightly over 8% of normal.) In this instance, the prior art does not appear to suggest the desirability of the pending invention since the simple models existing at the time were sufficient for evaluating the effect of stabilization on the FOR of the sensor. The fact that known elements could have been incorporated into a simulation model and the simulation model could have been embodied in a simulation device is not sufficient to establish *prima facie* obviousness. (MPEP 2143.01, III.) Therefore, for at least these reasons, Applicant respectfully asserts that claim 7 is patentable over Jodeit et al. in view of Applicant's description of elements of their invention, AOA, and Applicant respectfully requests withdrawal of the rejection.

If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). (MPEP 2143.03) Accordingly, Applicant respectfully requests that the rejections of claims 8, 9, and 23-32 be withdrawn.

In view of the foregoing, the pending claims are believed to be in a condition for allowance. Reexamination and reconsideration are respectfully requested. If a telephone conference might be of assistance, please contact the undersigned attorney at (612) 677-9050.

Respectfully submitted:

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